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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 30

Application Number: 09/277,893
Filing Date: March 29, 1999
Appellant(s): MARR, KENNETH W.

Brick G. Power
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 8, 2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

Appellant's brief presents arguments relating to whether the drawings are supported by the originally filed application, whether the drawings depict subject matter which is recited in the claims, and whether the specification provides proper antecedent basis for the subject matter recited in the claims. These issues relate to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP § 1002 and § 1201.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 17 – 33, 50 – 72 and 74 – 101 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,185,291	Fischer et al.	2-1993
5,712,206	Chen	1-1998
5,231,056	Sandhu	7-1993
5,242,859	Degelormo et al.	9-1993
6,069,055	Ukeda et al.	5-2000
JPPAT 59154038	Mitani	9-1984

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17 – 33, 50 – 72 and 74 – 101 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not clear where in the originally filed specification the "laterally discrete spaced apart regions of a first layer of conductive material around and between which an underlying insulative structure is exposed" is

described. Similar terminology referring to the laterally discrete spaced apart regions exists in claims 17, 50 and 71 and therefore all pending claims are rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17 and 19 – 24 and 26 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. in view of Chen (USPAT 5712206).

As far as the examiner can ascertain the rejections below read on the claimed invention.

Fischer et al. discloses a method of fabricating a fuse upon a semiconductor device in figures 1 – 3.

With regard to claim 17, in figure 1 Fischer et al. discloses disposing a layer of conductive material (11) over an insulative structure (10) of the semiconductor device. Fischer also discloses in figure 1 patterning the layer of conductive material to define at least two spaced apart regions of conductive material through which (111) the insulative structure is exposed. Fischer et al. discloses in figure 2 disposing a second conductive layer (12) over the semiconductor device, including adjacent to the at least two regions and to the insulative structure exposed between the at least two regions. In figure 3 Fischer et al. discloses patterning the second conductive layer so as to define at least two terminal regions of the fuse, each of which is in contact with a corresponding one of said at least two regions of conductive material, and a central region disposed between the at least two terminal regions and in contact with the

insulative structure. Fischer et al. does not disclose the second conductive layer as a metal silicide. Chen teaches in column 5, lines 57 – 65 a conductive layer (62) for a fuse that is a metal silicide. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the metal silicide layer of Chen in the method of fabricating a fuse upon a semiconductor device of Fischer et al. in order to use a preferred conductive material for the fuse that is well known in the art as stated by Chen in column 5, lines 57 – 65.

With regard to claims 19, the method of Fischer et al. discloses in column 3, lines 42 - 50 patterning the layer of conductive material comprising disposing a mask over the semiconductor device and removing selected regions of the layer of conductive material through the mask.

With regard to claim 20, Fischer et al. does not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask onto the semiconductor device, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Fischer et al. in order to pattern the metal layer.

With regard to claims 21 and 22, the method of Fischer et al. discloses in column 3, lines 34 – 50 that the removing comprises isotropically etching the selected regions of the layer of conductive material through the mask.

With regard to claim 23, Fischer et al. does not disclose etching the selected regions of the layer of conductive material with a wet etch. It is well known in the art that etching can comprise wet etching the selected regions of the layer of conductive material. It would have been obvious to one of ordinary skill in the art to use the wet etching method in the process of Fischer et al. in order to etch the conductive material with tapered edges.

With regard to claim 24, Fischer et al. discloses in column 2, lines 45 – 48 disposing the layer of conductive material comprises chemical vapor depositing the layer of conductive material.

With regard to 26, Chen discloses in column 5, lines 57 – 65 the metal silicide is tungsten silicide.

With regard to claim 27, the method of Fischer et al. and Chen inherently disclose patterning the layer of metal silicide comprising disposing a mask over the semiconductor device and removing selected regions of the layer of metal silicide through the mask.

With regard to claim 28, Fischer et al. and Chen do not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask onto the semiconductor device, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Fischer et al. and Chen in order to pattern the metal silicide.

With regard to claims 29 and 30, the method of Fischer et al. and Chen inherently disclose that the removing comprises anisotropically etching the selected regions of the layer of metal silicide.

With regard to claim 31, Fischer et al. does not disclose etching the selected regions of the layer of the metal silicide with a dry etch. It is well known in the art that etching can comprise dry etching the selected regions of the layer of metal silicide. It would have been obvious to one of ordinary skill in the art to use the dry etching method in the process of Fischer et al. and Chen in order to etch the metal silicide with vertical edges.

With regard to claim 32, it is inherent that a contact is disposed in communication with at least one of the at least two terminal regions.

With regard to claim 33, it is inherent that another contact is disposed in communication with another of the at least two terminal regions.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. and Chen as applied to claim 17 above, and further in view of Mitani (JPPAT 59-154038).

As far as the examiner can ascertain the rejections below read on the claimed invention.

With regard to claim 18, Fischer et al. and Chen do not disclose that disposing the layer of the conductive material comprises disposing polysilicon onto the insulative structure. Mitani discloses in figures 1 and 2 disposing polysilicon (5) as a conductive material for a fuse structure (3). It would have been obvious to one of ordinary skill in the art at the time of the present invention to dispose the polysilicon of Mitani in the method of Fischer et al. and Chen in order to dispose a conductive material layer that will be both part of the fuse component and a gate electrode as stated by Mitani in the abstract and constitution.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. and Chen as applied to claim 17 above, and further in view of Sandhu.

As far as the examiner can ascertain the rejections below read on the claimed invention.

With regard to claim 26, Fischer et al. and Chen do not disclose that the layer of metal silicide is deposited by chemical vapor deposition. Sandhu discloses in figure 1 that depositing the layer of metal silicide (12) comprises chemical vapor depositing the layer of metal silicide. It

would have been obvious to one of ordinary skill in the art at the time of the present invention to use the chemical vapor deposition process of Sandhu in the method of Fischer et al. and Chen in order to deposit a metal silicide film characterized by low impurities, good step coverage, and low stress with the silicon substrate as taught by Sandhu in the abstract.

Claims 50, 51, 55 – 60 and 62 – 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al. in view of Mitani and Chen.

As far as the examiner can ascertain the rejections below read on the claimed invention.

With regard to claim 50, Fischer et al. discloses in figures 1 – 3 a method of fabricating a fuse. Fischer et al. discloses in figure 1 fabricating spaced (111) apart regions comprising a first conductive layer (11) on an insulative structure (10) of a semiconductor device. Fischer et al. discloses in figures 2 and 3 fabricating a fuse comprising a second conductive layer (12), including a central region disposed adjacent the insulative structure and between the spaced apart regions and at least two terminal regions disposed on opposite ends of the central region and adjacent the space apart regions. Fischer et al. does not disclose that the first conductive layer comprises polysilicon on the insulative structure. Mitani discloses in figures 1 and 2 polysilicon (5) as a conductive layer for a fuse structure (3). It would have been obvious to one of ordinary skill in the art at the time of the present invention to dispose the polysilicon of Mitani in the method of Fischer et al. in order to use a first conductive layer that will be both part of the fuse component and a gate electrode as stated by Mitani in the abstract and constitution. Fischer et al. and Mitani do not disclose the fusible second conductive layer is a metal silicide. Chen teaches in column 5, lines 57 – 65 a fusible conductive layer (62) that is a metal silicide. It would

have been obvious to one of ordinary skill in the art at the time of the present invention to use the metal silicide layer of Chen in the method of fabricating a fuse upon a semiconductor device of Fischer et al. and Mitani in order to use a preferred conductive material for the fuse that is well known in the art as stated by Chen in column 5, lines 57 – 65.

With regard to claim 51, Fischer et al. discloses in figure 1 disposing the first conductive layer onto the insulative structure, and patterning the conductive material. As applied above the first conductive layer is polysilicon.

With regard to claims 55, the method of Fischer et al. discloses in column 3, lines 42 – 50 patterning comprises disposing a mask adjacent the first conductive layer and removing selected regions of the conductive layer through the mask. As applied above the first conductive layer is polysilicon.

With regard to claim 56, Fischer et al., Mitani and Chen do not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist adjacent the first conductive layer, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Fischer et al., Mitani and Chen in order to pattern the first conductive layer. As applied above the first conductive layer is polysilicon.

With regard to claims 57 and 58, the method of Fischer et al. discloses in column 3, lines 34 – 50 that the removing comprises isotropically etching the selected regions of the first conductive layer through the mask. As applied above the first conductive layer is polysilicon.

With regard to claim 59, Fischer et al., Mitani and Chen do not disclose etching the selected regions of the first conductive layer with a wet etch. It is well known in the art that

etching can comprise wet etching the selected regions first conductive layer. It would have been obvious to one of ordinary skill in the art to use the wet etching method in the process of Fischer et al., Mitani and Chen in order to etch the first conductive layer with tapered edges. As applied above the first conductive layer is polysilicon.

With regard to claim 60, Fischer et al. discloses in figure 2 disposing the second conductive layer adjacent the spaced apart regions and the insulative structure exposed therebetween. As applied above the second conductive layer is a metal silicide.

With regard to claim 62, Fischer et al. discloses in figure 2 patterning the second conductive layer. As applied above the second conductive layer is a metal silicide.

With regard to claim 63, the method of Fischer et al., Mitani and Chen inherently discloses patterning the layer of metal silicide comprising disposing a mask over the semiconductor device and removing selected regions of the layer of metal silicide through the mask.

With regard to claim 64, Fischer et al., Mitani and Chen do not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask onto the semiconductor device, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Fischer et al., Mitani and Chen in order to pattern the metal silicide.

With regard to claims 65 and 66, the method of Fischer et al., Mitani and Chen inherently discloses that the removing comprises anisotropically etching the selected regions of the metal silicide.

With regard to claim 67, Fischer et al., Mitani and Chen does not disclose etching the selected regions of the layer of the second conductive layer with a dry etch. It is well known in the art that etching can comprise dry etching the selected regions of the layer of second conductive layer. It would have been obvious to one of ordinary skill in the art to use the dry etching method in the process of Fischer et al., Szluk et al. and Sandhu in order to etch the metal silicide with vertical edges.

With regard to claim 68, Fischer et al. discloses in figures 2 and 3 the patterning of the second conductive layer comprises defining the at least two terminal regions of the fuse adjacent the spaced apart regions and the central region of the fuse adjacent the insulative structure. As applied above the second conductive layer is metal silicide.

Claims 52 – 54, 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al., Mitani and Chen as applied to claims 50 and 51 above, and further in view of Degelormo et al.

As far as the examiner can ascertain the rejections below read on the claimed invention.

Fischer et al., Mitani and Chen do not disclose disposing the polysilicon by chemical vapor deposition. Degelormo et al. teaches in column 6, lines 60-63 of chemical vapor depositing doped polysilicon wherein doping occurs substantially simultaneously with the disposing. The method of Degelormo et al. would further allow the spaced apart regions of polysilicon to be doped, and the doping to occur substantially simultaneously with disposing polysilicon on the insulative structure. It would have been obvious to use the polysilicon

disposing method of Degelormo et al. in the method of Fischer et al., Mitani and Chen in order to make lower resistance polysilicon as stated by Degelormo et al. in column 6, lines 32 – 35.

Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al., Mitani and Chen as applied to claims 50 and 60 above, and further in view of Sandhu.

As far as the examiner can ascertain the rejections below read on the claimed invention.

With regard to claim 26, Fischer et al., Mitani and Chen do not disclose that the layer of metal silicide is deposited by chemical vapor deposition. Sandhu discloses in figure 1 that depositing the layer of metal silicide (12) comprises chemical vapor depositing the layer of metal silicide. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the chemical vapor deposition process of Sandhu in the method of Fischer et al., Mitani and Chen in order to deposit a metal silicide film characterized by low impurities, good step coverage, and low stress with the silicon substrate as taught by Sandhu in the abstract.

Claims 71, 74 – 86, 88 – 96 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani in view of Fischer et al. and Chen

As far as the examiner can ascertain the rejections below read on the claimed invention.

With regard to claim 71, and 74, Mitani discloses in figures 1 and 2 a method of substantially simultaneously fabricating a gate and a fuse on a semiconductor substrate. Mitani discloses in figures 1 and 2 disposes a layer of insulative material (4) over at least an exposed region of the semiconductor substrate (1). Mitani discloses in figures 1 and 2 also disposes a layer of polysilicon (5) over the semiconductor substrate, including over the layer of insulative

material and over field oxide regions (2) disposed on the semiconductor substrate. Mitani discloses in figures 1 and 2 patterning at least regions of the layer of polysilicon (5) disposed over at least one field oxide region of the field oxide regions. Mitani discloses in figures 1 and 2 forming a layer of metal silicide (6) on the layer of polysilicon. Mitani does not disclose defining at least two spaced apart regions of polysilicon. Fischer et al. teaches in figure 1 patterning regions (11) comprising defining at least two spaced apart regions of a conductor layer on at least one field oxide region (10) and between which a portion of the at least one field oxide region is exposed therebetween. Fischer et al. also teaches in figure 2 and 3 defining a fuse comprising defining a central region (111) disposed adjacent and substantially between the at least two spaced apart regions and defining at least two terminal regions, each terminal region continuous with an end of the central region and disposed adjacent one of the at least two spaced apart regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to pattern the silicon layer of Mitani with the two spaced apart regions of Fischer et al. in order to create a laser-programmable or electric-current-programmable link features having locally reduced cross-sectional area resulting from locally reduced thickness of a conductive path, while width remains essentially constant, as stated by Fischer et al. in column 1, lines 60 – 65. Mitani and Fischer et al. do not disclose the fusible second conductive layer is a metal silicide. Chen teaches in column 5, lines 57 – 65 a fusible conductive layer (62) that is a metal silicide. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the metal silicide layer of Chen in the method of fabricating a fuse upon a semiconductor device of Mitani and Fischer et al. in order to use a preferred conductive material for the fuse that is well known in the art as stated by Chen in column 5, lines 57 – 65.

With regard to claim 75, the method of Mitani, Fischer et al. and Chen defining the at least two spaced apart regions inherently comprises disposing a mask over the layer of polysilicon and removing selected regions of the layer of polysilicon through the mask.

With regard to claim 76, Mitani, Fischer et al. and Chen do not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask over a layer of polysilicon, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Mitani, Fischer et al. and Chen in order to pattern the polysilicon.

With regard to claims 77 and 79, the method of Mitani, Fischer et al. and Chen inherently discloses that the removing comprises isotropically etching the polysilicon.

With regard to claim 78, Mitani, Fischer et al. and Chen do not disclose etching the selected regions with a wet etch. It is well known in the art that etching can comprise wet etching the selected regions of polysilicon. It would have been obvious to one of ordinary skill in the art to use the wet etching method in the process of Mitani, Fischer et al. and Chen in order to etch the polysilicon to have slanted sidewalls.

With regard to claims 80 and 81, Mitani discloses in figures 1 and 2 patterning gate regions of the layer of polysilicon that occurs substantially simultaneously with the patterning the at least regions of the layer of polysilicon.

With regard to claim 82, the method of Mitani inherently comprises disposing a mask over the layer of polysilicon and removing selected regions of the layer of polysilicon through the mask.

With regard to claim 83, Mitani does not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask onto a semiconductor device, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Mitani in order to pattern the polysilicon.

With regard to claims 84 and 86, the method of Mitani inherently discloses that the removing comprises anisotropically etching the selected regions.

With regard to claim 85, Mitani does not disclose etching the selected regions with a dry etch. It is well known in the art that etching can comprise dry etching the selected regions. It would have been obvious to one of ordinary skill in the art to use the dry etching method in the process of Mitani in order to etch the polysilicon to have vertical sidewalls.

With regard to claim 88, the method of Mitani, Fischer et al. and Chen defining the gate from at least the layer of metal silicide inherently comprises disposing a mask over the layer of metal silicide and removing selected regions of the layer of metal silicide through the mask.

With regard to claim 89, Mitani, Fischer et al. and Chen do not disclose that the mask is photoresist. It is well known in the art to dispose a photoresist mask over a layer of metal silicide, expose selected regions of the photoresist and develop the selected regions. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the photoresist method in the method of Mitani, Fischer et al. and Chen in order to pattern the metal silicide.

With regard to claims 90 and 92, the method of Mitani, Fischer et al. and Chen inherently discloses that the removing comprises anisotropically etching the selected regions.

With regard to claim 91, Mitani, Fischer et al. and Chen do not disclose etching the selected regions with a dry etch. It is well known in the art that etching can comprise dry etching the selected regions. It would have been obvious to one of ordinary skill in the art to use the dry etching method in the process of Mitani, Fischer et al. and Chen in order to etch the metal silicide to have vertical sidewalls.

With regard to claims 93 – 96, Mitani, Fischer et al. and Chen read on the claimed invention either inherently or obviously as applied to similar above claims.

With regard to claim 101, Mitani discloses in figure 1 doping at least one source region (18) and at least one drain region (19) of the semiconductor substrate, the at least one source region and the at least one drain region disposable adjacent the gate on opposite sides thereof.

Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, Fischer et al. and Chen as applied to claim 71 above, and further in view of Degelormo et al.

As far as the examiner can ascertain the rejections below read on the claimed invention.

Mitani, Fischer et al. and Chen do not disclose disposing the polysilicon by chemical vapor deposition. Degelormo et al. teaches in column 6, lines 60-63 of chemical vapor depositing doped polysilicon. It would have been obvious to use the polysilicon disposing method of Degelormo et al. in the method of Mitani, Fischer et al. and Chen in order to make lower resistance polysilicon as stated by Degelormo et al. in column 6, lines 32 – 35.

Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, Fischer et al. and Chen as applied to claim 71 above, and further in view of Sandhu.

As far as the examiner can ascertain the rejections below read on the claimed invention.

Mitani, Fischer et al. and Chen do not disclose disposing metal silicide by chemical vapor deposition. Sandhu teaches in figure 1 disposing a layer of metal silicide comprising chemical vapor depositing the layer of metal silicide (12). It would have been obvious at the time of the present invention to use the disposing of metal silicide method of Sandhu in the method of Mitani, Fischer et al. and Chen in order to use the properties of low bulk resistance and low stress of the metal silicide as stated by Sandhu in column 1, lines 12 – 21.

Claims 97 – 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitani, Fischer et al. and Chen as applied to claim 71 above, and further in view of Ukeda et al.

As far as the examiner can ascertain the rejections below read on the claimed invention.

Mitani, Fischer et al. and Chen do not disclose removing exposed regions of the insulative material through the layer of polysilicon. Ukeda et al. discloses in figures 1f and 1g and columns 3 and 4, lines 64 – 67 and 1 – 15 respectively removing exposed regions of the layer of insulative material (2) through the layer of polysilicon by anisotropically, dry etching the exposed regions of insulative material. It would have been obvious to one of ordinary skill in the art at the time of the present invention to use the removing methods of Ukeda et al. in the method of Mitani, Fischer et al. and Chen in order to complete the formation of a transistor furnished with a gate electrode as described by Ukeda et al. in column 4, lines 10 – 15.

(11) Response to Argument

112 1st Paragraph Response

With regard to the Appellant's arguments dealing with "Rejections under U.S.C. section 112, First Paragraph," these arguments are not persuasive. The Appellant states that "the originally filed specification clearly indicates that the spaced apart regions 14a and 14b [in figure 6] may be laterally discrete from one another. However" it should be noted that the issue is not whether the step of forming the spaced apart regions 14a and 14b in figure 6 are laterally discrete from one another. The issue is whether or not there is support in the originally filed specification for "laterally discrete spaced apart regions of said first layer of conductive material *around and between which* an underlying insulative structure is exposed." [emphasis added] While the Appellant has pointed out where in the originally filed specification support for "laterally discrete spaced apart regions" may be, the Appellant has made no attempt to point out where there is any support for "said first layer of conductive material *around and between which* an underlying insulative structure is exposed." All parts of the originally filed specification have been carefully reviewed. And while the specification might support laterally discrete, spaced apart conductive regions, there is no teaching that around and between the regions the insulative structure is exposed. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

To argue the 112-1st rejection, Appellant has misapplied the two claimed patterning steps. The Appellant applies support in the originally filed specification for the second claimed patterning step to show subject matter in the first claimed patterning step. A first patterning step of "patterning said layer of conductive material" is depicted by the originally disclosed

specification in the step after figure 3 with the resulting structure shown in figure 4. A second patterning step of "patterning said layer of metal silicide" is disclosed in the step after figure 5 with the final structure shown in figure 6. While two spaced apart regions appear in both figures, the Appellant has labeled laterally discrete spaced apart regions shown in figure 6 as 14a and 14b. Figure 4 only shows layer 14 depicted spaced apart from itself in the cross-sectional plane in which the view is drawn. The Appellant has not pointed to any suggestion in the originally filed figure 4, or the sections of the originally filed specification supporting figure 4, that any portion of the insulating layer is exposed around spaced apart regions of the patterned conductive layer 14. Clearly the conductive layer 14 shown and described in the original figure 4 is a continuous layer but for the space shown in the figure. Because the Appellant has definitively drawn a distinction between the structure of layer 14 in figures 3 - 5 and layers 14a and 14b in figures 6 and 7, the only conclusion one of ordinary skill in the art can come to, after considering the originally filed specification as a whole, would be that layer 14 is still one complete layer with a pattern separating only the areas depicted in the cross section of figure 4. If any intention was made by the Appellant in the originally filed specification to make the regions of layer 14 in figure 4 "laterally discrete spaced apart regions of said first layer of conductive material around and between which an underlying insulative structure is exposed," it is proposed that layer 14 in figure 4 would have been labeled 14a and 14b in the originally filed specification. However, the Appellant has used figure 6 to defend a claimed step described in figure 4. Thus, at best, the Appellant has misapplied the figures, and this misapplication clearly does not support the Appellant's argument. No figure or description in the originally filed specification provides any support or suggestion that "laterally discrete spaced apart regions of said first layer of conductive

material around and between which an underlying insulative structure is exposed" are defined during patterning the layer of conductive material. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

Even if the disclosure is considered ambiguous as to the limitation of "laterally discrete spaced apart regions of said first layer of conductive material around and between which an underlying insulative structure is exposed," the 112-1st paragraph rejection is proper. In *In re Oda, Fujii, Moriga, and Higaki,* 170 USPQ 268 (CCPA 1971), the court quoted Rivise and Caesar, Patentability and Validity (1936) stating, " 'the rule against new matter'... is intended to prevent an applicant under the guise of an amendment from introducing into his application a wholly different invention or changing the construction of a fully disclosed invention *or presenting a different or preferred form of the invention.* The applicant must stand or fall on his original disclosure and all amendments must conform thereto." [emphasis added]. Instantly, Appellant states that "while the accompanying descriptive text does not itself explain that these regions are laterally discrete from one another, the originally filed drawings, particularly FIGs. 4 – 8, do not depict regions 14a and 14b as being anything other than laterally discrete from one another." However, the claimed limitation also cites "spaced apart regions of conductive material between and around which said insulative structure is exposed." [emphasis added]. Nothing in the Appellant's originally filed specification, originally filed drawings, originally filed claims, amended specification, or amended drawings disclose this underlined limitation. Clearly this is either the Appellant's attempt to change the construction of the fully disclosed invention or present a different or preferred form of the invention. Thus, any claim limitation of

describing laterally discrete spaced apart regions of a first layer of conductive material between and around which an underlying insulative structure is exposed is clearly new matter.

The court's decision in *TurboCare Division of Demag Delaval Turbomachinery Corp. v. General Electric Co.*, 60 USPQ2d 1017 (Fed. Cir. 2001) is also on point. In TurboCare, the applicant submitted an amended claim reciting a specific location of a claim element (specifically, a location of certain springs). However, applicant's original disclosure did not include such an embodiment. Moreover, the court found that in order to be inherent, "the missing descriptive matter must necessarily be present in the [original] application's specification such that one skilled in the art would recognize such a disclosure." 60USPQ2d at 1023, citing Tronzo v. Biomet, Inc., 156 F.3d 1154, 1159, 47 USPQ2d 1829, 1834 (Fed. Cir. 1998). Here, neither condition is met. Similarly the Appellant's originally filed disclosure is completely lacking in any description of an embodiment in which the insulative structure is exposed between and around two laterally discrete, spaced apart regions of conductive material. While such an embodiment may have been obvious from the Appellant's vague description of spaced apart regions in the originally filed specification, the limitation is not inherent, and obviousness is not enough to satisfy the written description requirement. Therefore, claims 17 – 33, 50 – 72 and 74 – 101 contain new matter and fail to satisfy the written description requirement.

103 Response

(a)

With regard to the Appellant's argument's that "One of Ordinary Skill in the Art Would Not Have Been Motivated to Make the Asserted Combination," it should be noted that the rejection meets all necessary requirements to show that one of ordinary skill in the art would have been motivated to make the asserted combination.

With regard to the Appellant's argument that "Fischer does not provide any motivation to one of ordinary skill in the art to form one of the fuse layers taught therein from a metal silicide," it is noted that Fischer alone would be an anticipatory reference but for the instantly claimed material of the fuse. That is, Fischer teaches every element of claim 17 except for the use of metal silicide as the fuse. Rather, Fischer teaches in column 2, lines 43-45 and 59-63 that the fuse material may be polysilicon, aluminum or tungsten. As such, Chen was cited for teaching alternate materials that may be used as the fuse. Specifically, not only does Chen teach in column 5, lines 59-63, like Fischer, the use of polysilicon and aluminum, Chen also teaches the use of metal silicide (e.g. tungsten silicide) as instantly claimed. The motivation for using the materials taught by Chen in the device of Fischer is in order to use a preferred conductive material for the fuse that is well known in the art as stated by Chen in column 5, lines 57 – 65. This motivation could further be stated that such materials provide alternatives which allow for greater design choice. Expanding on the concept of a preferred conductive material or greater design choice includes myriad design considerations; e.g. a given circuit design may limit the peak current available to blow the fuse element so that a specific electrical resistance of the fuse material would be required, available laser energies or thermal budget may require

a fuse material with a specific thermal resistance, availability or cost of some fuse materials may preclude their use, use of the same type of material in subsequent, concurrent or preceding processing steps elsewhere in the circuit would make its use for the fuse more efficient, etc. Indeed, similar considerations, such as ease of programming, current density and electromigration of the fuse material, are contemplated by Fischer. Fischer, column 3, lines 7-10. In all, there is ample motivation to expand the choice of materials beyond those listed by Fischer. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

Appellant asserts that the device of Fischer is a fuse having terminal regions comprised of two layers whereas the device of Chen is a fuse with terminal regions having only one layer. Because of these differences the Appellant believes these references not to be combinable. However, this argument is flawed for at least the following reasons. First, the argument does not address the basis of the rejection. As made clear above, Fischer teaches the structure of the claimed invention but for the use of a specific fuse material. Chen was relied on solely for teaching the use of a metal silicide as a fuse layer. That Chen does not teach a two layer terminal is dispositive of nothing as this limitation was already taught by Fischer. It was never asserted that Chen need be modified to include a two layer terminal for that limitation was taught by Fischer. Secondly, even if Fischer and Chen had been combined in the manner asserted by Appellant, the argument contradicts the teaching of Fischer. That is, the concern of Fischer as stated in column 1, lines 54-57 is to fabricate a fuse with a specific thickness to ensure fusing upon application of either an electrical current *or* a laser pulse. Specifically, the thinned central region 111 of Fischer assures proper fusing of a fuse element by either

electrical current or laser irradiation. Such physical change of adding the two layer terminal to *Chen* would be motivated by Fischer, if one were to make that rejection. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

With regard to the Appellant's arguments that because Fischer has already put forth useful materials as the programmable portion of the fuse, this teaches away from the proposed substitution of the metal silicide taught by Chen. However, these arguments are not persuasive. First, Fischer does not state or even imply that its listed fuse materials are exclusive. Rather, Fischer is unconcerned with the specific material and lists aluminum, tungsten and polysilicon as mere examples in column 2, lines 43-45 and 59-63. Secondly, it is a mere substitution of materials to use the metal silicide taught by Chen as the fuse layer of Fischer and such simple material substitution will not suffice as a patentable invention. See *Griffith Rubber Mills v. Hoffar*, 136 USPQ 334, 337 (9th Cir. 1963) "[s]election from among available materials of one material thought more suitable for a particular use is normally within the competence of the person of ordinary skill in the art, and, generally, is for that reason not patentable." Nor does the instant use of metal silicide in place of the materials of *Fischer* rise above that which the court found unpatentable in *Martin-Marieta Corp. v. United States*, 153 USPQ 206, 373 F.2d 972, 976 (Ct. Cl. 1967) "[t]he cases have consistently held that there is no invention in the substitution of an improved material when it subsequently becomes available." Finally, there has been no showing of secondary considerations, such as a showing that no prior art suggested the use of metal silicide as a fuse layer and specifically its use in the device of Fischer. See *Arkie Lures Inc. v. Gene Larew Tackle Inc.*, 43 USPQ2d 1294, 1297 (Fed. Cir. 1997) "[n]o prior art showed or suggested the combination . . . although the prior

art was extensive as to the separate elements . . . Instead, the prior art, and the experts counseled against the . . . combination." In all, the substitution of metal silicide, a well known fuse material taught by Chen, as the fuse layer in the device of Fischer is not a patentable invention and Appellant's arguments to the contrary are not persuasive. Therefore, the rejections are proper.

With regard to the Appellant's ascertation that "Fischer teaches methods for fabricating a fuse which is configured to be blown by an electrical current, while the teachings of Chen are limited to a method for fabrication a fuse which is configured to be blown with a laser beam," it should be noted that these characterizations directly contradict what is taught by both references - that the fuse of either reference may be blown by an electrical current *or* a laser pulse. This is taught by Fischer in column 1, lines 54-57 and Chen in column 4, lines 53-54. Appellant's argument that Fischer and Chen are not combinable based on a different method of use must therefore fail. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

In response to Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Therefore, the applicant's arguments are not persuasive, and the rejection is proper.

In all, one of ordinary skill in the art would have been motivated to combine the teachings of Chen with that of Fischer. As made clear above, Fischer teaches the method of the instant device including specific material for the fuse but does not teach the claimed metal silicide. Chen teaches a fuse that uses the same material as Fischer as well as introduces additional fuse material. Motivation exists for their combination and therefore the rejection is proper.

With regard to the Appellant's arguments that "The Asserted Combination Does Not Teach or Suggest Each and Every Aspect Claim Element," it should be noted that the asserted combination does teach or suggest each and every claim element that was disclosed in the originally filed specification.

It should first be pointed out that the Appellant attempts to try and confuse the issues regarding the USC section 112 rejection and the USC 103 rejection. As stated above the originally filed specification does not provide support for "laterally discrete spaced apart regions of said first layer of conductive material around and between which an underlying insulative structure is exposed." It has been shown that at least "around and between which an underlying insulative structure is exposed" is not supported in the originally filed specification. Clearly this aspect of the limitation can not be understood as it relates to the presently claimed invention. Therefore, this aspect of the limitation has not been addressed in the rejection. By not addressing this issue in the section 112 first paragraph arguments responded to above, and addressing them now in the section 103 arguments, the Appellant is confusing the actual issues of the case. The response to these issues will reflect this anomaly.

Appellant states that "Fischer and Chen both lack any teach or suggestion of patterning a conductive layer to define at least two laterally distinct, spaced apart regions between... which an insulative structure is exposed." This is clearly a reflection on the instant invention being drawn to a method of making a fuse device having an intermediate step of patterning a layer of conductive material to define at least two laterally distinct spaced apart regions as shown in figure 4 of the originally filed specification. In response to the rejection, the Appellant states that "the teachings of Fischer are limited to forming windows in a lower layer of conductive material." It should be noted that the window formed centrally through a conductive layer 11 of Fischer in figure 1 does define two laterally discrete, spaced apart regions of the conductive layer 11 between which an insulative structure 10 is exposed. A window formed in the conductive layer forms at least one set of two regions which are spaced apart from each other. The spaced apart regions are defined as the regions of the conductive layer 11 on opposing sides of the window 111 (i.e. to the left and right of the window). The regions are laterally discrete from one another, because taken along a perpendicularly cut side, one side of the conductive layer, on one side of the window, is laterally discrete from the other opposing side. Between the regions which are laterally discrete and spaced apart from one another the insulative structure 10 of Fischer is exposed. Therefore Fischer does teach a fuse fabrication method that includes patterning a conductive layer to define at least two laterally distinct, spaced apart regions between which an insulative structure is exposed. Therefore, the appellant's arguments are not persuasive and the rejection is proper.

With regard to the Appellant's ascertation that "Chen does not teach or suggest forming laterally discreet spaced apart regions of a fuse from a layer of conductive material," it should be

noted, as discussed above, that Fischer, not Chen, is relied upon for this feature of the invention. Therefore, the appellant's arguments are not persuasive and the rejection is proper.

With regard to the Appellant's arguments stating that there is "No Reasonable Expectation of Success," it should be noted that the above response to the Appellant's arguments dictate a reasonable expectation of Success.

With regard to the Appellant's repeated argument that "neither Fischer or Chen teaches or suggests a method which includes "patterning [a] layer of conductive material in such a ways as "to define at least two laterally discrete, spaced apart regions of conductive material" therefrom, "between..." which an underlying insulative structure is exposed," it should be noted that all of the above arguments pertain to this response. For example, it has been shown that Fischer does disclose in figure 1 "patterning [a] layer of conductive material in such a ways as "to define at least two laterally discrete, spaced apart regions of conductive material" therefrom, "between..." which an underlying insulative structure is exposed." Therefore, the appellant's arguments are not persuasive and the rejection is proper.

For these reasons, a prima facie case of obviousness of claims 17, 19 – 24, and 26 – 33 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claims 17, 19 – 24, 26 – 33 are proper, and the Appellant's arguments for their reversal are not persuasive.

(b)

With regard to the Appellant's argument's that "One of Ordinary Skill in the Art Would Not Have Been Motivated to Make the Asserted Combination" of the teachings "of Mitani

with those of Fischer and Chen," it should be noted that the rejection meets all necessary requirements to show that one of ordinary skill in the art would have been motivated to make the asserted combination.

With regard to the Appellant's arguments pertaining to Fischer's use of metal silicide, it should be noted that these arguments are discussed above.

With regard to the Appellant's arguments "while Mitani includes the combined use of a metal silicide layer with a polysilicon layer, Mitani teaches that the metal silicide layer, not the polysilicon, is patterned to form discrete, spaced apart regions and, thus that the polysilicon, not the metal silicide, is useful for forming the region of the fuse which is to be ruptured," it is noted that Fischer and Chen would be an anticipatory combination but for the instantly claimed material of conductive layer. That is, Fischer and Chen teach every element of claim 17 except for the use of polysilicon as the conductive layer. Rather, Fischer teaches in column 2, lines 36-45 that the conductive layer may be polysilicon, aluminum or tungsten. As such, Mitani was cited for teaching an alternate material that may be used as the conductive material. Mitani is relied upon for disposing polysilicon (5) as a conductive material for a fuse structure (3). That "one of ordinary skill in the art would not have been motivated to combine the teachings of Mitani with those of either Fischer or Chen," is not persuasive because the motivation for using the materials taught by Chen in the device of Fischer is in order to dispose a conductive material layer that will be both part of the fuse component and a gate electrode as stated by Mitani in the abstract and constitution. Simply, the conductive material of polysilicon can be used for fabricating other devices such as a gate electrode. This would reduce process costs. This motivation could further be stated that such materials provide alternatives which

allow for greater design choice. Expanding on the concept of a material that can be used for multiple devices or greater design choice includes myriad design considerations; e.g. a given circuit design may limit the peak current available to blow the fuse element so that a specific electrical resistance of the fuse material would be required, available laser energies or thermal budget may require a fuse material with a specific thermal resistance, availability or cost of some fuse materials may preclude their use, use of the same type of material in subsequent, concurrent or preceding processing steps elsewhere in the circuit would make its use for the fuse more efficient, etc. In all, there is ample motivation to expand the choice of materials beyond those listed by Fischer. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

With regard to the Appellant's arguments that "there is no motivation to combine the teachings of Chen with those of either Fischer or Mitani... because Fischer and Mitani teach the use of multiple layers to for a fuse, while Chen merely teaches the use of a single material layer," it should be noted that the arguments regarding this issue, as stated above, still apply. That is, Fischer teaches the structure of the claimed invention but for the use of a specific fuse material and a specific conductive layer. Chen and Mitani are not being modified to include the structure of Fischer. Therefore, the Appellant's arguments are not persuasive and the rejection is proper.

With regard to the Appellant's ascertation that the combination of Mitani with Fischer and Chen fails because "Fischer and Mitani teach methods for fabricating fuses which are configured to be blown by an electrical current," "while Chen [is] limited to methods for fabricating fuses that are configured to be blown by laser beams," it should be noted that

method of using the devises of Fischer, Chen, and Mitani are not persuasive to render a lack of motivation. Further, as stated above, both Fischer and Chen teach blowing a fuse by the use of electrical current. Thus, taking into account the ascertation of the Appellant, all three of the fuses fabricated by Fischer, Chen, and Mitani teach blowing a fuse by the use of electrical current. Therefore, even if methods of using were at issue, the Appellant's arguments are not persuasive. Therefore, the rejection is proper.

In response to Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Therefore, the applicant's arguments are not persuasive, and the rejection is proper.

With regard to the Appellant's argument that "The Asserted Combination Does Not Teach or Suggest Each and Every Aspect Claim Element," it should be noted, as discussed above, that the method limitations argued against are soley taught by Fischer, while both Chen and Mitani are used to show the use of alternative materials in the method of Fischer. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

With regard to the Appellant's ascertation that "There Is No Reasonable Expectation that the Proposed Combination Would be Successful," it should be noted that there are no "extreme divergence" in the teachings of Fischer, Chen, and Mitani. In fact all of these references teach methods of making fuses for use in semiconductor applications. The Appellant's statement that "The most likely result of such a combination would resemble the method taught in Mitani, without removal of material of the metal silicide layer from the region of the fuse which is configured to rupture during patterning of the metal silicide layer," is misleading because no such combination using Mitani as the base reference has been proposed. In fact, the most likely combination of these references, as proposed, would result in the method of Fischer with the silicide fuse layer of Chen, and the polysilicon conductive layer of Mitani. Therefore, the applicant's arguments are not persuasive, and the rejection is proper.

For these reasons, a prima facie case of obviousness of claim 18 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claim 18 is proper, and the Appellant's arguments for their reversal are not persuasive.

(c)

With regard to the applicant's statement that "Sandhu, ... merely teaches a process for depositing a tungsten silicide film by chemical vapor deposition," it should be noted that yes, Sandhu is only relied upon for teaching tungsten silicide by chemical deposition. The added ascertation that this "does not provide any teaching or suggestion which remedies the

aforementioned deficiencies in the asserted combination of Fischer and Chen," is not understood, because, as discussed above, there are no deficiencies in the combination of Fischer and Chen.

(d)

With regard to the Appellant's arguments that "The proposed Combination Does not Teach or Suggest Each and Every Element," it should be noted that the combination of Fischer, Mitani, and Chen do disclose each and every element claimed by claims 50, 51, 55 – 60 and 62 – 68. The above discussion also relates to this combination. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

Further, regarding the Appellant's statement that "When the second conductive layer [of Fischer] is formed, the insulative structure is no longer exposed through the window," it should be noted that the claims do not stipulate that the insulative structure be exposed between the spaced apart regions of conductive material after the second conductive layer is formed. The claim language only dictates that laterally discrete, spaced apart regions of a first conductive material are formed in the first fabricating step of the claim. As noted in the above discussion, the window formed by Fischer clearly reads on the claim limitation of fabricating laterally discrete, spaced apart regions comprising a first conductive layer on an insulative structure of a semiconductor device, the insulative structure being exposed between each of the spaced apart regions. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

With regard to the Appellant's arguments that "in the method taught by Fischer, the insulative structure that underlies the conductive structure is not exposed both between and around the laterally discrete, space apart regions prior to the fabrication of a fuse thereover," it

should again be noted that nothing in the Appellant's originally filed specification suggests that there is support for this claim language. As such, Fischer reads on the claim limitations supported by the Appellant's originally filed specification. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

Regarding Appellant's arguments against the combination of Fischer with Mitani, it should again be noted that this combination is a material substitution, thoroughly explained in the above discussion. As stated above, material substitutions do not compromise patentable subject matter. Further, any argument detailing Mitani's lack of spaced apart regions are not persuasive because this is taught by Fischer. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

Still further, regarding the Appellant's arguments "Chen lacks any teaching or suggestion of fabricating spaced apart regions from any type of conductive material," again, as discussed above, any argument detailing Chen's lack of spaced apart regions is not persuasive because spaced apart regions are taught by Fischer. Again, Fischer teaches the spaced apart regions, while Chen is relied upon for teaching a fuse of a metal silicide material. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

Taken together, Fischer, Mitani and Chen do teach or suggest fabricating laterally discrete, spaced apart regions that comprise polysilicon, that an insulative structure is exposed between such spaced apart regions as they are formed, and fabricating a fuse that comprises a metal silicide with a central region thereof disposed between such space apart regions. Therefore the Appellant's arguments are not persuasive, and the rejection is proper.

For these reasons, a prima facie case of obviousness of claims 50, 51, 55 – 60 and 62 – 68 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claims 50, 51, 55 – 60 and 62 – 68 are proper, and the Appellant's arguments for their reversal are not persuasive.

(e)

With regard to the Appellant's arguments against Degelormo, it should be noted that Degelormo is used to teach that polysilicon can be deposited by a CVD process. Whether Degelormo teaches or suggest that the CVD process may be used to fabricate any part of a fuse structure or structures associated directly with a fuse is not at issue. The only issue is that Degelormo is available to teach a CVD process for forming a polysilicon layer. It does not matter for what the layer is used. In fact, while Fischer, Mitani, and Chen are silent to using CVD for depositing polysilicon as the first conductive layer, Fischer teaches in column 2, lines 43 – 48 that the first conductive layer can be formed by CVD. Remembering that Mitani is used to teach that the first conductive layer can be polysilicon, it is a natural addition to use the teaching of Degelormo to show that a first conductive polysilicon layer of Fischer, Mitani, and Chen can be deposited by CVD. This is merely a method of forming the layer already used by Fischer, Mitani, and Chen. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

Further, with regard to the Appellant's arguments that Degelormo does not teach spaced apart regions, it is again noted that Fischer is relied upon for this feature. Also, as stated above,

claim 50 is not allowable. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

For these reasons, a prima facie case of obviousness of claims 52 – 54, 69, and 70 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claims 52 – 54, 69, and 70 are proper, and the Appellant's arguments for their reversal are not persuasive.

(f)

With regard to the applicant's statement that "Sandhu would not remedy the deficiencies that have been noted regarding the asserted combination of Fischer, Mitani, and Chen," is not understood, because, as discussed above, there are no deficiencies in the combination of Fischer, Mitani, and Chen. Therefore, a prima facie case of obviousness of claim 61 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejection of claim 61 is proper, and the Appellant's arguments for their reversal are not persuasive.

With regard to the applicant's ascertation that "The Proposed Combination Does Not Teach or Suggest Each and Every Claim Element," it should be noted that the above discussion also relates to the combination of Mitani, Fischer, and Chen. However, it should be noted, the rejection is formatted differently than the above combinations. Fischer is still the reference that is still relied upon for patterning at least regions of a conductive material disposed over at least one field oxide region to define at least two laterally discrete, spaced apart regions from the conductive material over the at least one field oxide region with portions of the at least one field

oxide region being exposed between each of the space apart regions. Fischer is also the reference relied upon to teach disposing a layer of a second conductive material on the layer of first conductive material and into contact with the portions of at least one field oxide region. Again, in these steps, only material substitutions of the polysilicon of Mitani for the first conductive layer, and the metal silicide of Chen for the second conductive layer are defined. Thus, as stated above, the Appellant's arguments are not persuasive and the rejection is proper.

For these reasons, a prima facie case of obviousness of claims 71, 74 – 86, 88 – 96, and 101 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claims 71, 74 – 86, 88 – 96, and 101 are proper, and the Appellant's arguments for their reversal are not persuasive.

(h) and (i)

With regard to the Appellant's statements concerning claims 72 and 87, as shown above, claims 71 is not allowable, and therefore this reason alone is not persuasive to show the allowability of claims 72 and 87.

(j)

With regard to the rejection of Mitani, Fischer, and Chen over Ukeda, Appellant appears to argue that "Ukeda teaches a dry etch process for anisotropically removing exposed regions of a polysilicon layer through a metal silicide layer." [emphasis added]. In as much as this is an argument, it is not understood. As stated in the rejection which treated the elements in the claims, "Ukeda et al. discloses ... removing exposed regions of the layer of insulative material

(2) through the layer of polysilicon by anisotropically, dry etching the exposed regions of insulative material." [emphasis added] Thus, Ukeda is relied upon for something completely different than what the Appellant is actually arguing against. Therefore, the Appellant's arguments are not persuasive, and the rejection is proper.

For these reasons, a prima facie case of obviousness of claims 97 – 100 has been established pursuant to the requirements of 35 U.S.C. section 103(a). Therefore, the rejections claims 97 – 100 are proper, and the Appellant's arguments for their reversal are not persuasive.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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